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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,457	07/06/2001	Marcel Zvi Schreiber	3394p007x	4385
8791	7590	11/18/2004	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			ROSWELL, MICHAEL	
			ART UNIT	PAPER NUMBER
			2173	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/904,457	<b>Applicant(s)</b> SCHREIBER ET AL.	
	<b>Examiner</b> Michael Roswell	<b>Art Unit</b> 2173	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-100 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-100 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 10, 16, 23, 25-31, 34, 40-43, 51-57, 60, 66, 73, 75-81, 84, and 90-93 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al (U.S. Patent 5,950,190), hereinafter referred to as Chang.

In regards to claims 1, 25, 51, and 75, Chang teaches a repository of class and relation definitions and instances of classes (at Columns 2-3, Lines 66-3 and Column 19, Lines 38-44), a server for responding to queries relating to class and relation definitions in the repository (Column 9, Lines 11-24), a graphical user interface communicating with the server interactively displaying icons for representing instances of classes as a user browses the repository (taught as the interactive creation of class and subclass icons at Column 10, Lines 5-34 and at Column 13, Lines 40-42). Chang also teaches responding to queries relating to class and relation definitions and instances of classes in a repository, and interactively displaying icons representing instances of classes as a user browses the repository, based on the query response (taught as the ability of a user to create classes and subclasses in a database, and the subsequent display of a class or subclass icon, at Column 10, Lines 5-34). Furthermore, Chang discloses the use of IDL files for storing generic class and relation definitions in the repository (Column 17, Lines 33-38) to go along with specific instances of classes stored in the repository. Chang also teaches the use of the invention in a distributed client/server

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environment with multiple repositories, and an embodiment of a single central Client Data Store Manager with a single ontology directory functioning as a global ontology directory (Column 6, Lines 23-28).

In regards to claims 2, 26, 52, and 76, Chang describes the use of Persistent Identifiers (PID) and Object Identifiers (OID) to provide unique identification keys for all objects in the repository (Column 16, Lines 58-64) and shows them linked to the icon of an instance (Column 16, Line 40).

In regards to claims 3, 27, 53, and 77, with respect to claim 2, it can be seen that the PID and OID values are functions of the repository (Column 16, Lines 55-57).

In regards to claims 4, 28, 54, and 78, Chang allows for the unique identifiers to be utilized in all tables and classes, which would include applicant's "largest class" (Column 16, Lines 57-64).

In regards to claims 5, 29, 55, and 79, Chang associates an icon with an instance view or table (Column 11, Lines 20-21).

In regards to claims 6, 30, 56, and 80, an icon is traditionally defined as a small image displayed on screen available for user manipulation. Chang shows such class icons in Figure 8, and describes their interaction with a user (Column 10, Lines 20-22).

In regards to claims 7, 31, 57, and 81, an icon is traditionally defined as a small image displayed on screen available for user manipulation. Chang shows the transition from the display of a class instance to that of a class icon (Column 13, Lines 39-42).

In regards to claims 10, 34, 60, and 84, Chang discloses the appearance of a popup menu in response to a user clicking on a class icon, and includes in the menu items the ability to add or change attributes of the class (Column 10, Lines 20-29).

In regards to claims 16 and 66, Chang shows in Figure 19 a collection of icons representing instances of classes.

In regards to claims 23 and 73, Chang shows in Figure 8 the presentation of subclass icons on the user interface.

In regards to claims 40, 43, 90, and 93, it can be seen in Figure 11 that Chang allows for the searching of given instances found in instance documents that are associated with an icon, and that the search results in Figure 12, where the instance, its icon and caption are displayed on screen (Column 13, Lines 25-32).

In regards to claims 41 and 91, Chang discloses the appearance of a popup menu in response to a user clicking on a class icon, and includes in the menu items the ability to add or change attributes of the class (Column 10, Lines 20-29).

In regards to claims 42 and 92, if the "Attributes" item of the instance popup menu is selected, a sub-menu is activated which allows the user to add or change attributes pertaining to the selected instance (Column 10, Lines 20-29).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-14, 17-22, 35-38, 45, 50, 61-64, 67-72, 85-88, 95, and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang and Yeager et al (U.S. Patent 5,950,190), hereinafter referred to as Yeager.

In regards to claims 11, 35, 61, and 85, Chang teaches a repository of class and relation definitions (Column 19, Lines 38-44), a server for responding to queries relating to class and relation definitions in the repository (Column 9, Lines 11-14, 19-24), and a graphical user interface including icons for representing instances of classes (Column 13, Lines 40-42). Chang also disclose a popup menu in response to a user clicking on a class icon, and includes in the menu items the ability to add or change attributes of the class (Column 10, Lines 20-29).

The difference between the claims and Chang is the claims recite a search tool for searching for functions within the class domain.

Yeager teaches a dynamic graphical user interface for relational database applications similar to the interface of Chang, and utilizing icons, classes, and repositories similar to applicant's claimed invention. Yeager further teaches a search tool for searching for functions within the domain of the class (Figure 4 and Column 10, Lines 11-22).

It would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Yeager before him at the time of the invention to modify the graphical user interface for data stores of Chang to include the function search tool of Yeager in order to obtain a user interface dealing with classes and instances of classes where the interface allows for searching within classes for specific functions.

One would be motivated to make such a combination for the advantage of performing queries on classes and instances of classes with a user-friendly interface, allowing for the user to access data without prior knowledge of query language. See Yeager, Column 9, Lines 64-67 and Column 2, Lines 6-13.

In regards to claims 12, 36, 62, and 86, and with respect to claim 11 above, Yeager discloses the access of the relational database and the data dictionary across a network (Column 20, Lines 3-8), necessitating a function search over a network in that situation.

In regards to claims 13, 37, 63, and 87, and with respect to claim 11 above, Yeager shows a single repository for storing the relational database and data dictionary (Column 8, Lines 21-31), therefore performing any search over a central repository.

In regards to claims 14, 38, 64, and 88, with respect to claim 11 above, Yeager shows the search tool searching for functions within the domain of the selected class (Figure 4, Column 10, Lines 54-60), obtained through navigating the popup menu of Chang.

In regards to claims 17 and 67, Chang teaches a repository of class and relation definitions (Column 19, Lines 38-44), a server for responding to queries relating to class and relation definitions in the repository (Column 9, Lines 11-14, 19-24), and a graphical user interface including icons for representing instances of classes (Column 13, Lines 40-42).

The difference between Chang and the claims is the claims recite a collection of instances defined by a logical term.

Yeager teaches a dynamic graphical user interface for relational database applications similar to the interface of Chang, and utilizing icons, classes, and repositories similar to applicant's claimed invention. Yeager further teaches the use of logical terms to define a collection of classes (Figure 4 and Column 10, Lines 31-42).

It would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Yeager before him at the time of the invention to modify the graphical user interface for data stores of Chang to include the refining of instances by way of a logical term.

One would be motivated to make such a combination for the advantage of obtaining a collection of instances having similar attribute values, and allowing the user to access specific information more quickly and easily. See Yeager, Column 11, Lines 29-33.

In regards to claims 18 and 68, and with respect to claims 17 and 67 above, Yeager shows the use of operators such as intersection, union, and minus to provide the logical term for the instance browser, defining one or more parameters and not specifying others (Column 10,

Lines 42-45). Therefore, a collection is defined that satisfies "instances specified for all but one parameter".

In regards to claims 19 and 69, and with respect to claims 17 and 67, Yeager discloses the ability to search for instances of a class with values for any number of class related parameters (Column 10, Lines 13-22).

In regards to claims 20 and 70, and with respect to claims 19 and 69 above, Yeager discloses the access of the relational database and the data dictionary across a network (Column 20, Lines 3-8), necessitating a function search over a network in that situation.

In regards to claims 21 and 71, and with respect to claims 19 and 69 above, Yeager shows a single repository for storing the relational database and data dictionary (Column 8, Lines 21-31), therefore performing any search over a central repository.

In regards to claims 22 and 72, Yeager shows the use of mathematical modifiers to set bounds for the instance search tool (Column 10, Lines 31-38).

In regards to claims 45 and 95, Yeager shows in Figure 4 the ability to define a collection, search for instance documents and tuples of the relation (Column 9-10, Lines 63-67, 1-30), and have been shown *supra* to create icons for instances of classes.

In regards to claims 50 and 100, it can be seen in Figures 7-9 that Chang applies captions to the icons representing classes and instances of classes.

Claims 8, 9, 24, 32, 33, 44, 58, 59, 82, 83, and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang and Tuli (U.S. Patent 6,003,034).

In regards to claims 8, 9, 32, 33, 58, 59, 82, and 83, Chang teaches a repository of class and relation definitions (Column 19, Lines 38-44), a server for responding to queries relating to class and relation definitions in the repository (Column 9, Lines 11-14, 19-24), and a graphical user interface including icons for representing instances of classes (Column 13, Lines 40-42). An icon is traditionally defined as a small image displayed on screen available for user manipulation. Chang shows the transition from the display of a class instance to that of a class icon (Column 13, Lines 39-42).

The difference between the claims and Chang is the claims recite the definition of the function from instances to images from within the repository, and in an alternative, the user selects from a plurality of functions.

Tuli discloses linking icons to data units for systems such as Database Management Systems and networks utilizing an object oriented approach to storing and retrieving data, similar to the instance browser of Chang. Tuli teaches the representation of icons from a standard group of repository attributes (Column 2, Lines 3-6) and allows for the user to select an icon from an existing plurality (Column 1-2, Lines 64-67, 1).

It would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Tuli before him at the time of the invention to modify the instance browser with image association of Chang with the ability to define the function from within the repository or be defined by the user as presented by Tuli to obtain an instance browser where instances are related to images either as defined by the instance repository or selectively by the user.

One would be motivated to make such a combination for the advantages of greater control over how instances are represented by icons in the instance browser, and allowing icons to have more relevance to instances. See Tuli, Column 1, Lines 60-64.

In regards to claim 24, 44, 74, and 94, Chang teaches a repository of class and relation definitions (Column 19, Lines 38-44), a server for responding to queries relating to class and relation definitions in the repository (Column 9, Lines 11-14, 19-24), and a graphical user interface including icons for representing instances of classes (Column 13, Lines 40-42).

Chang fails to disclose the use of a filter for separating instances, relations, or classes by authorship.

Tuli teaches a sort function similar to the disclosed filter for sorting files belonging to specific authors (Column 3, Lines 28-32).

It would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Tuli before him at the time of the invention to modify the instance browser of Chang to include the sorting/filtering feature of Tuli to obtain a browser capable of sorting information based on authorship.

One would have been motivated to make such a modification for the advantage of convenient user-based arrangement of data by specified attributes. See Tuli, Column 3, Lines 25-27.

Claims 15, 39, 65, and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang and Wical.

In regards to claims 15, 39, 65, and 89, Chang teaches a repository of class and relation definitions (Column 19, Lines 38-44), a server for responding to queries relating to class and

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relation definitions in the repository (Column 9, Lines 11-14, 19-24), and a graphical user interface including icons for representing instances of classes (Column 13, Lines 40-42), and the appearance of a popup menu in response to a user clicking on a class icon, and includes in the menu items the ability to add or change attributes of the class (Column 10, Lines 20-29).

The difference between the claims and Chang is the claims recite the creation of icons for values of listed functions.

Wical describes the use of icons that include numbers for displaying how many documents are related to that specific category (Column 10, Lines 23-33). In this case, the class of the instance browser would be the category presented, and the function of the class would be the number of related articles.

It would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Wical before him at the time of the invention to modify the instance browser of Chang to include the value-specific icons of Wical to obtain an instance browser that displays specific values of functions of classes on screen.

One would be motivated to make such a combination for the obvious advantage of allowing the user to see information about a class or category without having to see all of the specifics of each class or category, and facilitating navigation of the data. See Wical, Column 11-12, Lines 59-67, 1-9.

Claims 46-49 and 96-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang and Yeager as applied to claims 45 and 95 above, and further in view of Tuli.

Chang and Yeager have been shown *supra* to define a collection, search for instance documents and tuples of the relation (Yeager, Column 9-10, Lines 63-67, 1-30), and have been shown *supra* to create icons for instances of classes.

Chang and Yeager fail to disclose the use of a filter for separating instance documents by authorship.

Tuli teaches a sort function similar to the disclosed filter for sorting files belonging to specific authors (Column 3, Lines 28-32).

It would have been obvious to one of ordinary skill in the art, having the teachings of Chang and Tuli before him at the time of the invention to modify the instance browser of Chang to include the sorting/filtering feature of Tuli to obtain a browser capable of sorting information based on authorship.

One would have been motivated to make such a modification for the advantage of convenient user-based arrangement of data by specified attributes. See Tuli, Column 3, Lines 25-27.

In regards to claims 47 and 97, and with respect to claims 46 and 96 above, Yeager discloses the access of the relational database and the data dictionary across a network (Column 20, Lines 3-8), necessitating a function search over a network in that situation.

In regards to claims 48 and 98, and with respect to claim 46 and 96 above, Yeager shows a single repository for storing the relational database and data dictionary (Column 8, Lines 21-31), therefore performing any search over a central repository.

In regards to claims 49 and 99, with respect to claim 46 and 96 above, Yeager shows the search tool searching for functions within the domain of the selected class (Figure 4, Column 10, Lines 54-60), obtained through navigating the popup menu of Chang.

### ***Response to Arguments***

Applicant's arguments filed 18 June 2004 have been fully considered but they are not persuasive.

Applicant argues on page 17, ¶2, "Chang does not describe graphical representations of object instances". The Examiner respectfully disagrees. Chang, as can be seen in Fig. 4 and at Column 10, Lines 30-34, describes the display of a class, and instances of that class, in this case the class "Animal" and subclasses/instances "Dog" and "Cat".

The Examiner also disagrees with Applicant's arguments on pages 18-19 that Chang, Yeager, Tuli, or Wical all fail to teach interactively displaying icons representing instances of classes as a user browses a repository. Chang teaches the interactive display of icons for created and selected classes and subclasses, at Column 10, Lines 5-34.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

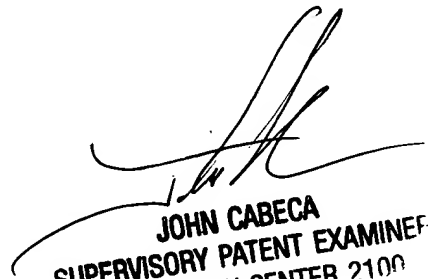
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Roswell whose telephone number is (571) 272-4055. The examiner can normally be reached on 8:30 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Roswell  
11/3/2004



**JOHN CABECA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**